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ABSTRACT

This paper reviews and synthesizes the literature on institutional support for student assessment, offering an organizing framework for using this information to shape institutional policies, processes, and practices in ways that lead to both improved student performance and institutional functioning. The framework, first, involves the overall institutional approach to the content and methods of student assessment. Next, it examines external influences on student assessment, including national efforts, state-level initiatives, regional and professional accreditation associations, private sector influence and support, and professional associations. Discussion of the framework's next component, organizational and administrative support, considers student assessment support strategy, leadership and governance patterns for student assessment, academic management policies and practices, institutional culture and climate, evaluation and revision of student assessment approaches, and the influence of institutional context dimensions. The final component of the model is institutional utilization and the impact of student assessment on academic decision making, on the institution, and on the relationship between an institution and its external environment. (Contains 170 references.) (DB)

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Analytic Framework of Institutional Support for Student Assessment

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Context and Purpose

From the perspective of scholars and practitioners, an effective student assessment approach gathers information about selected aspects of students' characteristics, experiences, and achievements and uses this information to shape institutional policies, processes, and practices in ways that lead to improved student performance and institutional functioning (American Association for Higher Education [AAHE], 1992; Banta & Associates, 1993; Ewell, 1984, 1988b). Since the emergence of the student assessment movement in higher education more than a decade ago, the number of institutions engaged in some form of student assessment activity has steadily increased (El-Khawas, 1988, 1990, 1995). Institutions have differed markedly in their approaches to student assessment (Banta et al., 1996) but few have undertaken comprehensive student assessment programs (El-Khawas, 1990; Hexter & Lippincott, 1990; Johnson, Prus, Andersen, & El-Khawas, 1991). Moreover, concerns have been raised that student assessment efforts often fail to produce discernible impacts on students' or institutions' performance (Astin, 1991; Hutchings & Marchese, 1990; Ratcliff & Associates, 1995). It appears that more institutions are engaging in student assessment activity, but many are failing to reap its formative benefits.

Despite evidence of the difficulty of implementing effective student assessment approaches, the current literature offers institutions limited credible evidence on which to base decisions about student assessment policies and practices. The increasing tendency of external agents to require institutional evidence of student assessment (Ewell, 1991, 1993, 1997; Gaither, 1995; McGuinness, 1994) and assessment practices at the state level are well chronicled (Cole, Nettles, & Sharp, 1997; Ewell, Finney & Lenth, 1990; National Center for Higher Education Management Systems [NCHEMS], 1996). There is growing descriptive information regarding institutional approaches to student assessment (Banta & Associates, 1993; Banta et al., 1996; Cowart, 1990) but little systematic evidence on the manner in which institutions have attempted to support student assessment (Johnson et al., 1991). Notably absent is a comprehensive examination of organizational and administrative patterns at the institutional level that are designed to promote institutional efforts at student assessment and that are formulated in response to external demands. Even less available is documentation of the use and impact of student assessment within institutions (Banta, 1996; Ewell, 1988b, 1997; Gray & Banta, 1997).

In an effort to address this void, the purpose of this paper is to review and synthesize the extant literature on institutional support for student assessment and to provide an organizing framework for conceptualizing how institutions may respond to external demands and intentionally promote organizational and administrative policies and practices to support student assessment and to insure that it is used for student, academic, and institutional benefit.

We conducted an extensive review of the literature on student assessment in postsecondary institutions produced during the past decade. This review addressed the following questions:

- What types of measures and approaches to student assessment have institutions adopted?
- What external forces influence institutions' approaches to, support for, and uses and impacts of student assessment?

- What organizational and administrative support patterns and institutional characteristics influence the use of various student assessment approaches?
- How do student assessment approaches and organizational and administrative support patterns enhance the use of student assessment data and impact the institution?

Our approach to the literature review is diagrammed in Figure 1 below.

Figure 1. Literature Review of Institutional Support for Student Assessment.

Institutional Approaches to Student Assessment
External Influences on Student Assessment
Institutional Utilization and Impact of Student Assessment
Organizational and Administrative Support for Student Assessment
Institutional Context

Our search for documents related to institutional support for student assessment included holdings of the Education Resources Information Center (ERIC) system, the Dissertation Abstracts International (DAI) database, the H. W. Wilson Files (which includes the Business Periodicals Index, the Humanities Index, and the Social Sciences Index), and the literature databases in business (ABI Inform), psychology (Psycinfo), and the social sciences (Social Sciences Citation Index). The initial search phase, employing search terms related to student assessment in postsecondary education, yielded 3,475 citations. In the second search phase, the addition of institutional dimension search terms produced an institutionally relevant subset of 567 references. These documents were further evaluated based upon the following criteria: direct relevance to institutional-level issues of student assessment in higher education; publication credibility (document was published or available as an article in a professional journal, as a monograph, or in book form); and/or substantive content (document was empirically or conceptually grounded). A total of 291 documents met these criteria. Of this final subset, only 58 documents were identified as being based on systematic research and 27 were conceptually or theoretically grounded.

Using our organizing framework as a guide, we abstracted and analyzed the content of each of these documents. This process permitted the identification of specific elements of external and internal influences on institutional approaches to, support for, and uses and impacts of student assessment. We now present an overview of an analytic framework of institutional support for student assessment derived from this literature review. Within each domain of this framework,

we identify key variables, discuss proposed relationships among them and summarize the empirical support for these relationships. Finally, on the basis of this framework and literature review, we suggest specific areas of future research needed to enlarge our understanding of how institutions may best promote and benefit from student assessment.

An Analytic Framework of Institutional Support for Student Assessment

Colleges and universities may be conceived as consisting of several interacting internal and external environments (see Figure 2 below). The term environment refers to organizational phenomena within a prescribed boundary. Each environment can be subdivided into domains, each of which includes related sets of dimensions. (Peterson, 1988).

It is clear that selected aspects of the external environment must be considered in our framework. Demands from a variety of external constituencies have played an important role in initiating and shaping student assessment efforts within postsecondary institutions (Aper, Cuver & Hinkle, 1990; Banta & Moffett, 1987; Ewell, 1997; Hutchings & Marchese, 1990). In particular, influences on student assessment have been exerted by national-level efforts, state-level initiatives, accreditation associations, the private sector, and professional associations. These agents constitute the five key domains of the external environment for student assessment.

While internal environments include the student, faculty, and curricular environments, our primary interest is the organizational and administrative environment for student assessment. This environment refers to administrative patterns and to the organizational policies, procedures and practices that are designed to promote or support student assessment. Within the organizational and administrative environment, six conceptual domains are suggested as affecting both the nature of student assessment activities undertaken by an institution and the extent to which student assessment produces observable impacts on institutional performance. These include the institution's approach to student assessment, support strategy for student assessment, patterns of institutional leadership and governance for student assessment, academic management policies and practices for student assessment, the institutional culture and climate for student assessment, and the approaches used to evaluate and revise student assessment efforts. In addition, dimensions of the institutional context such as type, control, size and other characteristics may moderate the approach to student assessment, the organizational and administrative patterns invoked to support assessment activities, and the institutional uses and impacts of student assessment.

The primary concern of this institutional support framework is to understand how institutions use student assessment information to improve institutional performance and to examine the institutional impacts that may be associated with engagement in student assessment. The literature suggests two general domains of academic decision making in which institutions may employ student assessment information: decisions regarding academic strategy such as planning and resource allocation and decisions regarding academic management policies and practices. To the extent that assessment information is used to shape institutional decisions, this may produce changes in several key areas of institutional functioning: student performance; faculty behavior; curricula; assessment culture and climate; and the institution's interactions and relationships with the external environment.

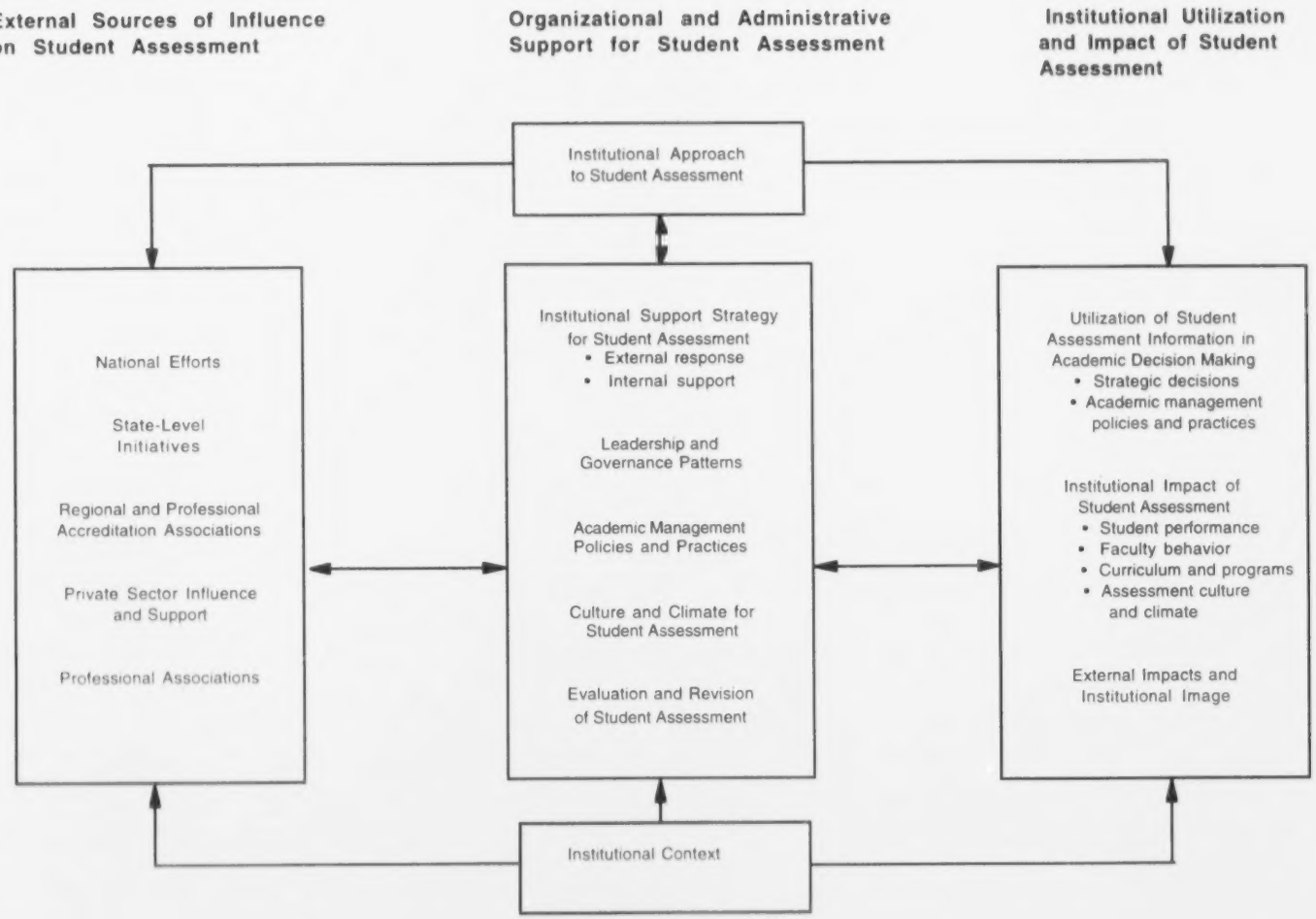
External Sources of Influence on Student Assessment
Organizational and Administrative Support for Student Assessment
Institutional Utilization and Impact of Student Assessment
Institutional Approach to Student Assessment
National Efforts
State-Level Initiatives
Regional and Professional Accreditation Associations
Private Sector Influence and Support
Professional Associations
Institutional Support Strategy for Student Assessment
• External response
• Internal support
Leadership and Governance Patterns
Academic Management Policies and Practices
Culture and Climate for Student Assessment
Evaluation and Revision of Student Assessment
Utilization of Student Assessment Information in Academic Decision Making
• Strategic decisions
• Academic management policies and practices
Institutional Impact of Student Assessment
• Student performance
• Faculty behavior
• Curriculum and programs
• Assessment culture and climate
External Impacts and Institutional Image
Institutional Context

Figure 2. Analytic Framework of Institutional Support for Student Assessment

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In the following subsections, we will discuss each environment and its associated domains in terms of its nature, and its potential and demonstrated relationship to institutional support for student assessment. We will begin by considering institutional approaches to student assessment which encompasses the content and methods of student assessment employed by institutions. From there, we will successively move through an examination of the external influences on student assessment, the organizational and administrative support patterns for student assessment, and the institutional uses and impacts of student assessment.

Institutional Approach to Student Assessment

An institution's approach to student assessment reflects decisions regarding the content and technical aspects of student assessment. These decisions may be influenced by external mandates, institutional context, and domains of the organizational and administrative environment. Further, an institution's student assessment approach may ultimately shape the uses made of assessment information, and the institutional impacts realized. Institution's approaches to student assessment can be compared on the following dimensions: content of assessment, level of aggregation at which assessment occurs, timing of assessment measures, and assessment methods employed.

Content of Student Assessment

Institutions select which aspects of students' functioning and which characteristics of the institution itself are to be examined as a part of student assessment efforts. Assessment content may be broadly categorized as input variables, environmental variables and outcome variables (Astin, 1991; Erwin, 1991; Ewell, 1984, 1988b; Lenning, 1991; Micek & Arney, 1974).

Input variables refer to characteristics or attributes of incoming students such as sociodemographic information, prior academic performance, educational aspirations and expectations, self-ratings or abilities, values and attitudes, and behavioral patterns. Environmental variables reflect aspects of students' experiences within the institution such as course-taking patterns, exposure to various teaching methods, contacts with faculty and peers, receipt of financial aid, and use of institutional services and facilities. Outcome variables represent aspects of students' attributes or performance measured at the point of, or after, students' departure from the institution. Several taxonomies of student assessment variables have been developed (cf. Astin, 1991; Bowen, 1977; Lenning, Lee, Micek, & Service, 1977; Alexander & Stark, 1986; Ewell, 1984, 1987c). Although these taxonomies vary in their use of specific terminology and variable categories, all distinguish among aspects of students' cognitive, affective, or behavioral functioning. Scholars contend that assessment approaches that collect data on a comprehensive array of variables, including aspects of students' institutional experiences, will contribute more to institutional decision making than those that focus solely on students' attributes or performance (Astin, 1991; Ewell, 1988b; Hutchings, 1990; Johnson, McCormick, Prus & Rogers, 1993).

Several studies have examined the content of institutions' student assessment approaches. These include surveys of assessment practices across two-year and four-year institutions (Gill, 1993; Johnson et al., 1991; Patton, Dasher-Alston, Ratteray, & Kait, 1996; Steele & Lutz, 1995;

Steele, Malone & Lutz, 1997), research universities (Ory & Parker, 1989), and two-year colleges (Cowart, 1990). A review of this research reveals that assessment content has most often focused on input and output variables with greatest emphasis placed on measuring cognitive domains of student functioning. Among cognitive domains, basic knowledge and skills were most often assessed, followed by general education, knowledge in the major and lastly, higher order cognitive skills (Cowart, 1990; Johnson et al., 1991; Ory & Parker, 1989). Behavioral variables have been measured to a lesser extent (Cowart, 1990; Gill, 1993; Patton et al., 1996). Affective variables were least likely to be assessed (Cowart, 1990; Gill, 1993; Johnson et al., 1991; Patton et al., 1996; Steele & Lutz, 1995; Steele et al., 1997). There was little evidence that institutions collected information on students' experiences within and perceptions of the institutional environment as a part of their student assessment efforts (Steele et al., 1997). However, given that few surveys specifically inquired about this aspect of assessment content (Steele et al., 1997), the virtual absence of these variables may be an artifact of extant research designs.

Level of Aggregation

Institutions must also consider the unit of analysis toward which student assessment efforts will be directed (Ewell, 1988b, 1991c; Terenzini, 1989). Assessment approaches can be used to examine individual students or student subgroups, classrooms, courses, academic programs or departments, schools or colleges within the institution, or the institution as a whole (Alexander & Stark, 1986; Ewell, 1984, 1987c). Although arguments have been offered for focusing assessment efforts at the level of individual students (Loacker & Mentkowski, 1993; Ratcliff, 1995), courses (Hutchings & Marchese, 1990; Loacker & Mentkowski, 1993) and academic programs (Halpern, 1987; Hlebowitsh, 1995; Seybert, 1994), the relative effectiveness of a decision regarding level of aggregation is expected to depend on its congruence with the intended purpose of assessment — whether that is to inform external accountability, program review, curriculum evaluation, individual student development, or other options (Alexander & Stark, 1986). We did not locate research that examined differences in institutional choices with respect to level of aggregation.

Timing of Measures

Institutions must also determine at what points in students' education to engage in assessment. Institutions may decide to collect assessment data as students enter the institution, at various points during students' enrollment, and/or after students have terminated their formal involvement with the institution (Astin, 1991). Each approach to the timing of data collection has associated strengths and limitations (Terenzini, 1989). For example, the literature contains extensive discussions of the psychometric, statistical and methodological issues associated with attempting to measure and explain changes in students' performance over time (Hanson, 1988; Jacobi et al., 1987; Terenzini, 1989). Generally speaking, assessment designs that encompass multiple points of data collection are advocated over those that use only one point of data collection (Astin, 1991; Halpern, 1987; Jacobi et al., 1987; Kells, 1992). In addition, assessment approaches that examine linkages between student performance and specific aspects of institutional experience over the course of students' enrollment have the

potential to make greater contributions to decisions regarding institutional policies and practices than approaches that only collect information on student or environmental variables (AAHE, 1992; Ewell, 1988b, 1991c; Hutchings, 1990; Johnson et al., 1993).

A review of findings from student assessment surveys (Cowart, 1990; Gill, 1993; Kalthoff & Lenning, 1991; Ory & Parker, 1989; Patton et al., 1996; Steele et al., 1997) and syntheses of research on student assessment (Hexter & Lippincott, 1990; von Destinon, Ganz & Engs, 1993) offers the following generalizations about the timing of student assessment measures undertaken by postsecondary institutions. Data collection was most likely to occur at one point during students' institutional experiences, more often collected at students' point of entry and to a lesser degree at time of students' exit (Cowart, 1990; Gill, 1993; Hexter & Lippincott, 1990; Kalthoff & Lenning, 1991; Patton et al., 1996). Fewer institutions assessed students during or after their time in institutions or measured changes in students' entry- to exit-level performance (Cowart, 1990; Gill, 1993; Hexter & Lippincott, 1990; Kalthoff & Lenning, 1991; Ory & Parker, 1989; Patton et al., 1996; Steele et al., 1997; von Destinon et al., 1993).

Methods of Student Assessment

In addition to determining what student assessment information to collect, the appropriate level of aggregation, and the timing of that measurement, institutions must also select the methods that will be used to collect this data. A basic choice facing institutions is whether to use externally developed or institutionally developed assessment approaches or instruments (Johnson et al., 1993; Lenning, 1991; Ory, 1991; Winston & Miller, 1994). State or commercially developed approaches are the primary externally developed ones and generally take the form of comprehensive, objective examinations or inventories administered in a pencil and paper or computerized format. Locally developed approaches encompass numerous and more varied assessment options. General categories discussed in the literature include: comprehensive tests or examinations (Ewell, 1987c; Fong, 1988; Johnson et al., 1993); performance-based measures such as projects, demonstrations, simulations, internships, or portfolios (Banta et al., 1996; Fong, 1988; Hutchings, 1989; Johnson et al., 1993; Lenning, 1988); surveys or interviews (Ewell, 1987c; Johnson et al., 1993; Lenning, 1988); classroom assessment techniques (Angelo & Cross, 1993; Cross & Angelo, 1988; Ewell, 1991c); external examiners (Fong, 1987, 1988; Johnson et al., 1993; Payne, Vowell & Black, 1991); or archival data (Ewell, 1987c; Johnson et al., 1993; Lenning, 1988).

There are strengths and weakness associated with external and institutional approaches (for discussion, see Ewell, 1984, 1987a; Jacobi et al., 1987; Nichols, 1991; Ory, 1991; Terenzini, 1989). The appropriateness of any selected approach or measure is expected to depend on the purpose of assessment. If the primary intent of an institution's student assessment efforts is to address external accountability issues, the use of standardized, external or commercially available instruments may be the best choice. If student assessment is mainly intended to guide improvements in students' performance or institutional effectiveness, institutionally developed approaches are thought to be more useful (Ewell, 1987a; Jacobi et al., 1987; Ory, 1991). In general, the use of multiple measures is advocated to capitalize on the strengths and to combat the deficiencies of any one method or measure (Ewell, 1984, 1988b; Halpern, 1987; Jacobi et al., 1987; Johnson et al., 1993; Lenning, 1991; Ratcliff, Jones, et al., 1997; Sims, 1992; Terenzini,1989).

Conflicting observations have emerged regarding the kind and frequency of student assessment methods used by postsecondary institutions. Two studies found commercially-developed instruments to be the most commonly used assessment method (Johnson et al., 1991; Kalthoff & Lenning, 1991), while two others have reported their use to be limited (Ervin, 1988, Steele & Lutz, 1995). *Campus Trends* survey data has revealed an increase in the proportion of institutions developing their own instruments and approaches, including portfolio assessment methods (El-Khawas, 1992, 1995). But according to other studies, institutionally developed methods have most often consisted of single-item measures such as course completion and course grade data (Cowart, 1990; Gibson, 1992; Gill, 1993; Patton et al., 1996; Steele & Lutz, 1995), and portfolios were among the least commonly used (Gill, 1993; Steele & Lutz, 1995).

For the most part, studies reveal a profile of student assessment approaches that are of rather limited depth. As noted, most institutions have emphasized the measurement of student characteristics and performance rather than students' experiences with or perceptions of the institutional environment, and cognitive domains of student functioning rather than behavioral or affective domains. Data collection is most likely to occur at one point rather than multiple points during students' institutional experiences. There is some indication that institutions are making greater use of institutionally developed instruments and approaches. However, as this can encompass a variety of methods ranging in complexity from course grades to portfolios, it is important that distinctions are made about the use of specific types of institutionally developed approaches.

Our analytic framework suggests that institutional approaches to student assessment may be shaped by external influences, institutional context, and dimensions of the organizational and administrative environment. Further, the content and methods of student assessment may ultimately influence the uses made of student assessment information. For example, the prevailing content emphasis on student characteristics and performance and comparative lack of consideration of their institutional perceptions and experiences would seem to limit the ability of institutions to understand how they have influenced student performance and what they might do differently in terms of institutional policies and practices to enhance student performance. It is to this consideration of external and internal influences on student assessment practices, and the institutional utilization of student assessment information that we now turn.

External Environment for Student Assessment

National Efforts

National-level activities related to student assessment have been embodied in reports on higher education such as *Involvement in Learning: Realizing the Potential of American Higher Education* (National Institute of Education, 1984) and *To Reclaim a Legacy: A Report on the Humanities in Higher Education* (Bennett, 1984); in changes to guidelines for accrediting agencies (Sims, 1992; Wade, 1989/1990); in the enactment of federal legislation such as the "Student Right to Know and Campus Security Act" and "Ability to Benefit" legislation (Education Commission of the States [ECS], 1991); in the development of the National Education Goals (ECS, 1991; Ewell, 1991; Lenth, 1993, 1996; Nettles, 1995); and in the provision of financial

support, mainly administered as grants for student assessment projects (Banta, 1991; Cook, 1989).

Although many scholars have credited activities at the national level with providing the initial impetus and continuing momentum for the student assessment movement (Banta & Moffett, 1987; Ewell, 1991; Hutchings & Marchese, 1990; Marchese, 1987; Sims, 1992), there is limited empirical support for these contentions. All six regional accrediting agencies now require evidence of student assessment (Banta & Moffett, 1987; Cole et al., 1997). Some institutions have reported the use of federal funds to support their student assessment efforts (e.g., Amarin, Schilling & Schilling, 1993; Katz, 1993). In one survey employing a national sample of postsecondary institutions, national trends was the reason least often reported by academic administrators as a stimulus for establishing an institution's student assessment program (Johnson, Prus, Andersen, & El-Khawas, 1991); in another, federal requirements were seldom identified as a reason for institutions increasing the amount of student assessment activity being undertaken (El-Khawas, 1995). Together, these findings suggest that national-level actions function primarily as indirect influences on institutional support for student assessment.

State-Level Initiatives

State-level actions are clearly construed as an important external influence on institutional engagement in student assessment (Aper et al., 1990; Ewell, 1993; Hutchings & Marchese, 1990). The number of states enacting student assessment initiatives has progressively increased since the mid-1980's (NCHEMS, 1996). According to a recent survey, all but four of fifty responding states reported some type of student assessment activity (Cole et al., 1997). Of institutions that had obtained results from their student assessment efforts, half reported using this information for reports to state agencies (El-Khawas, 1990).

Less certain is whether state-level initiatives have facilitated significant levels of internal institutional involvement in student assessment or have mainly produced a compliance response on the part on institutions (Aper et al., 1990; Ewell, 1993; El-Khawas, 1995; Steele & Lutz, 1995). The combination of differences in state system approaches to higher education policy in general, and student assessment, specifically, (Aper, 1993; Aper et al., 1990; Boyer, Ewell, Finney & Mingle, 1987; Ewell, 1993) and variations in institutional environments makes it difficult to disentangle the influence of state-level actions on institutional support for student assessment. The literature suggests specific dimensions along which state-level systems and actions with respect to student assessment can be compared that may differentially shape institutions' student assessment efforts. These dimensions include: state governance structure for higher education; form of student assessment initiative; purpose of student assessment initiative; relationship of student assessment initiative to other external initiatives; centralization of student assessment decision making; standardization of student assessment indicators and instruments; reporting and evaluative uses of student assessment information; and resource support for student assessment.

Cole and colleagues (Cole et al., 1997) found that state-level higher education governance structures invested with greater authority, including governing boards or coordinating boards with regulatory authority, were more likely to promulgate student assessment initiatives than

those governance structures with lesser authority, such as coordinating boards with advisory capacity or planning agencies. Compared to states with coordinating boards or planning agencies for higher education, states with consolidated governing boards more often enacted student assessment policies rather than statutes or combinations of policies and statutes (Cole et al., 1997). However, evidence regarding the differential influence of state governance structures or form of state-level student assessment initiative on institutional support for student assessment was not found.

Propositions have been advanced in the literature regarding the remaining dimensions of state-level student assessment initiatives. Initiatives that emphasize institutional improvement as their primary purpose are expected to promote greater institutional support for student assessment than those that emphasize external accountability (Aper & Hinkle, 1991; Ewell, 1991). State-level student assessment initiatives that are integrated with or linked to other state policy levers (Ewell, 1991) and that are consistent with other higher education policy initiatives (Jones & Ewell, 1993; McGuinness, 1994) or accreditation reporting requirements (Lincoln, 1990) are believed to stimulate greater institutional support for student assessment than those that are distinct from or inconsistent with other external policies or reporting requirements.

Decisions regarding the design and implementation of the student assessment approach may be centralized at the state level, decentralized to the institution level, or determined conjointly by state- and institution-level personnel (Aper et al., 1990; Ewell, 1987b; Ewell & Boyer, 1988; Hines, 1988). Scholars generally contend that decentralized decision making approaches—in which state-level authorities set broad guidelines for student assessment but leave decisions regarding the specific strategic and operational aspects of assessment efforts up to the discretion of institutional personnel—will facilitate greater institutional engagement in student assessment than centralizing student assessment decision-making at the state level (Ewell, 1984; Jones & Ewell, 1993).

State student assessment initiatives requiring common student performance indicators are thought to be more effective than locally-selected indicators at addressing external accountability requirements (Ewell, 1991; Ruppert, 1994) but less effective at promoting institutional engagement in and utilization of student assessment (Ewell, 1994). Compared to permitting institutions to use locally-developed student assessment instruments, state initiatives that prescribe standardized tests may be less well accepted internally and less useful for informing institutional improvement (Ewell, 1987a; Jacobi et al., 1987; Ory, 1991; Terenzini, 1989).

Ewell (1987b, 1990) contends that state initiatives that require institutions to report on internal uses of assessment information will promote greater institutional support of student assessment than those that only require institutions to provide information on assessment plans or student information collected. Student assessment information may be used by state agents to evaluate institutions relative to their own local objectives or prior performance, against absolute standards, or against the performance of other institutions (NCHEMS, 1996). Compared to inter-institutional comparisons, evaluating institutions against their own objectives or performance is expected to enhance institutional support for student assessment (Banta, 1988; Steele & Lutz, 1995).

States may offer resources for institutions' student assessment efforts through a variety of forms including: providing special budget lines to fund assessment activities; granting institu-

tions permission to charge student fees for assessment activities; reimbursing institutions for assessment-related expenditures (Cole et al., 1997); offering categorical grants or technical assistance for developing assessment approaches (Ewell, 1987b); or linking a proportion of institutional funding to institutional achievement of specified performance criteria (Banta, 1988; Banta & Moffett, 1987; Cole et al., 1997; Ewell, 1991, 1997). Scholars have generally advocated that institutional efforts at student assessment should be rewarded by the state rather than punished (Banta, 1988; Banta & Moffett, 1987; Halpern, 1987; Steele & Lutz, 1995).

Several changes in patterns of state-level assessment initiatives have been documented over the past decade: a shift in emphasis from institutional improvement to external accountability as the primary purpose of assessment (Ewell, 1991, 1997; Ewell & Jones, 1993; McGuinness, 1994; NCHEMS, 1996); increasing establishment of linkages between student assessment and other state-level policy initiatives or systems of regulation (NCHEMS, 1996); tendencies toward increasing centralization and standardization of assessment initiatives as evidenced by the addition of common performance indicators to institutional reporting requirements (Ewell, 1994; Gaither, 1995; Ruppert, 1994); growing state interest in the use of common assessment instruments (NCHEMS, 1996; Steele & Lutz, 1995), and increasing use of performance-based funding or budgeting approaches (Cole et al., 1997; Ewell, 1991, 1997). On the basis of the propositions reviewed above, these practices may be expected to produce greater institutional compliance with state mandates but there is no evidence they increase levels of institutional ownership of student assessment and the likelihood that assessment information will be used for institutional improvement.

In sum, the extant literature provides little empirical evidence of the correspondence between specific dimensions of state-level approaches to student assessment and institutional student assessment efforts, uses or impacts. Research on postsecondary student assessment has generally been restricted either to the domain of state-level initiatives (Boyer et al., 1987; Ewell, Finney & Lenth, 1990; NCHEMS, 1996) or to institution-level assessment efforts (El-Khawas, 1988, 1990, 1995; Johnson et al., 1991; Ory & Parker, 1989). Single state (Aper & Hinkle, 1991; Banta, 1988) and multiple state (Ewell & Boyer, 1988) case study research has produced conflicting findings regarding the effectiveness of decentralized state approaches in garnering institutional support for student assessment. Research at the institutional level has taken a general approach to exploring the influences of state assessment mandates, typically asking only about the existence of such mandates and the extent to which they have influenced institutional student assessment efforts (cf., El-Khawas, 1990; Johnson et al., 1991). For the most part, it is not clear whether or how specific variations in state-level approaches to student assessment initiatives influence institutional support for student assessment.

Regional and Professional Accreditation Associations

In addition to federal and state-level influences, accrediting associations have also played an important role in shaping the student assessment movement (Aper et al., 1990; Banta, 1993; Ewell, 1993). Because of their broader scope of influence, regional institutional associations rather than professional or specialized accreditation associations are our primary concern in this domain.

Regional accrediting associations wield substantial, albeit indirect, power over higher education institutions primarily through the linkage between accreditation status and eligibility for federal and state funding (Gill, 1993; Nettles, 1987). The role and focus of these associations have evolved and expanded since their inception at the turn of the twentieth century (Young, 1983). Between 1984 and 1992, all six regional accrediting associations revised or established policies, standards or statements related to the assessment of students' educational outcomes (Cole et al., 1997).

Ewell (1993) suggests that the inclusion of student assessment among regional accreditation requirements motivated more institutions to begin their assessment efforts. There is some empirical support for this general contention. In *Campus Trends* surveys, a progressively larger proportion of institutions has reported that student assessment information was required as a part of institutional self-studies conducted for regional accreditation associations (El-Khawas, 1990, 1992, 1995). In three multi-institution surveys, accreditation requirements were cited as major reasons for institutions undertaking (Johnson et al., 1991; Muffo, 1992) and increasing (El-Khawas, 1995) their student assessment efforts.

A recent study of regional accreditation association policies and practices conducted by Cole et al. (1997) showed some commonalities in the approaches to student assessment adopted by regional accrediting associations. Documentation from accreditation associations consistently asserted that the main intent of these policies was to promote institutional improvement rather than to satisfy external accountability. Regional accreditors have uniformly employed a decentralized approach to decisions regarding the design and implementation of institutional student assessment plans. While recommendations were offered regarding domains of student functioning to assess and assessment approaches, no regional accrediting association required the assessment of particular aspects of student performance or the use of specific assessment processes or instruments (Cole et al., 1997).

However, several differences among the student assessment-related policies and practices enacted by regional accrediting agencies were also evident (Cole et al., 1997). Regional association approaches varied in terms of the explicitness with which student assessment-related policies and practices were addressed and their prioritization among other indicators of institutional effectiveness. The nature of the relationships between regional accrediting associations and state higher education authorities ranged from formal policies on the sharing of reports to informal communication links to no apparent relationship. Institutional reporting requirements regarding student assessment efforts varied from showing evidence of a student assessment plan to evidence of using student assessment information to improve teaching and learning. Finally, regional accrediting associations differed in terms of the student assessment-related services and activities they provided to their member institutions, including printed resource materials on student assessment, training programs on assessment practices, and surveys regarding the status of assessment efforts and member institutions' training needs (Cole et al., 1997).

Evidence regarding the influence of regional accreditation association policies and practices on organizational and administrative support for student assessment is scant and conflicting. In nationally representative surveys, regional accreditation requirements were reported as a major impetus for institutions' initiating and increasing their student assessment activities (El-

Khawas, 1995; Johnson et al., 1991). Kalthoff & Lenning's (1991) study of institutions with members belonging to the Association for Institutional Research reported significant differences in the proportion of institutions engaged in student assessment when grouped by regional accrediting affiliation. Cowart (1990) found no such relationship in her national survey of two-year colleges. Surveys of the status of student assessment among member institutions conducted by the Middles States Association of Colleges and Schools (Gill, 1993) and the Southern Association of Colleges and Schools (Gentemann & Rogers, 1987) found considerable variation in the tenure and extent of institutional involvement in student assessment efforts.

Professional or specialized accreditation associations are a less prominent source of external influence on student assessment approaches. Changes in professional accreditation standards can trigger a review of curriculum content, instructional practices, and student assessment practices within programs and schools (Hill, 1996). The achievement of program accreditation has been used by state higher education authorities as a criterion in the evaluation of institutional performance (Banta, 1988). Some institutions use student performance on professional licensure examinations as a student outcomes measure (e.g., Gill, 1993). An increasing number of institutions are required to include student assessment information in reports for specialized accreditation purposes (El-Khawas, 1992, 1995).

Despite evidence that suggests regional, and to a lesser extent, professional accreditation associations are the strongest source of external influence on institutions' student assessment efforts, we currently know very little about the specific dynamics of their relationship to institutional approaches to, support for, and uses and impacts of student assessment. We found little research that systematically examined differences in institutions' student assessment efforts across accrediting regions. Overall, the influence of professional accreditation associations on institutional engagement in student assessment has received less empirical consideration than that given to regional accreditors.

Private Sector Influence and Support

The business community and private foundations are portrayed in the literature as important sources of external influence on institutions' student assessment efforts. Scholars assert that the business community's concerns with prospective employees' skills and abilities have fueled its active interest in shaping student assessment efforts (Cress, 1996; Ewell, 1991). Business community influences on student assessment may take several forms: representation on statewide student assessment committees; participation in curriculum planning and evaluation through Technical Preparation programs partnerships (Michigan State Board of Education, 1991); and by shaping institutions' decisions regarding the type of student assessment information to be collected (Altieri, 1990; Banta, 1991; Ewell, 1991).

Of these possible forms of business community influence, research has been restricted to examining whether institutions incorporate employment-related measures (e.g., student satisfaction with career preparation, success in finding employment, employer satisfaction with graduates) in their student assessment approaches. Surveys of assessment practices at research universities (Ory & Parker, 1989), community colleges (Cowart, 1990) and four-year and two-year colleges (Johnson et al., 1991) suggest that research universities are least likely and community colleges are most likely to collect this kind of student information.

Descriptions of student assessment practices at a variety of institutions reveal some use of funding from private foundations in developing these programs (Banta, 1991; Banta & Moffett, 1987; Obler, Slark, & Umbdenstock, 1993; Ratcliff & Jones, 1993). This suggests that the provision of private foundation funding may play at least a minor role in shaping the nature of student assessment activities undertaken by an institution. No systematic, empirical evidence was located regarding the extent and nature of private foundation influences on institutional assessment efforts.

Professional Associations

Several professional higher education associations, notably the American Association for Higher Education and the Association of American Colleges, played an active role in raising the importance of student assessment on the national agenda of higher education in the early stages of the assessment movement (Astin, 1993; Hutchings & Marchese, 1990). A review of the higher education literature and of documentation collected from national higher education associations reveals these associations have undertaken a variety of efforts intended to support institutions in implementing student assessment including: sponsoring special meetings and national conferences dedicated to student assessment issues; publishing books, reports, monographs, and journals related to student assessment; providing consulting and networking services; sponsoring research on student assessment practices; and facilitating collaborative efforts between institutions to discuss and design alternative student assessment approaches (Banta, 1991; Mentkowski, 1991). Based on these efforts, the main impact professional associations likely have on institutions is through the professional development of their members regarding student assessment issues and approaches. To date, there has been no systematic examination of the extent to which institutions have availed themselves of these services and whether a relationship exists between institutional participation in these professional association services and the nature of institutional support for student assessment.

Summary of External Environment Influences

National efforts have set the context and provided momentum for the student assessment movement. Their influence on institutional support for student assessment appears to be primarily indirect. Of all the external domains considered here, state-level influences have garnered the most attention in the literature. Descriptions and state-level surveys provide evidence of a complex and changing pattern of state initiatives with respect to student assessment. However, the corresponding literature on institutional responses to these initiatives is most often anecdotal; empirical studies are scant, and are neither specific nor relational in nature. Regional accrediting associations seem to play a prominent role in shaping institutions' assessment efforts, judging from institutions' reports of main influences on initiating or increasing their assessment activities. The specifics of these influences or variations by accrediting region are unknown. Finally, while the role of the private sector and professional associations are suggested as emergent and important influences on student assessment, there is currently little evidence of the scope or nature of this influence or its variation across types of institutions. We will turn now to an examination of the domains of the organizational and administrative environment for student assessment.

Organizational and Administrative Support for Student Assessment

The development and implementation of student assessment efforts suggests five internal institutional domains within the organizational and administrative environment. We will turn now to an examination of the literature and research pertaining to the domains of student assessment support strategy; leadership and governance patterns for student assessment; academic management policies and practices for student assessment; institutional culture and climate for student assessment; and evaluation and revision of student assessment approaches. Further, we consider the influence of institutional context dimensions on institutions' approaches to, and support of, student assessment.

Student Assessment Support Strategy

Strategy refers to an institution's choices about the overall design of its structural and functional patterns that attempt to establish a fit between its external and internal environments (Peterson et al., 1986). More specifically, we use the term student assessment support strategy to refer to how an institution's student assessment approach is developed, structured, implemented, and supported within the institution. These strategic decisions reflect external pressures for student assessment. They are also linked to patterns of leadership and governance support for assessment, and are likely to influence academic management policies and practices for assessment, the culture and climate for student assessment, and processes used to evaluate and revise assessment efforts. A distinction may usefully be made between the student assessment support strategies invoked by institutions with respect to their external and internal environments.

External Assessment Support Strategy

As noted in earlier, institutions have been faced with growing external demands for student assessment (Banta, 1993; Cole et al., 1997; Ewell, 1993; NCHEMS, 1996; Sims, 1992), and these are recognized as providing some of the impetus for institutions' student assessment efforts (El-Khawas, 1990, 1992, 1995; Johnson et al., 1991; Muffo, 1992). Further, scholars suggest that the manner in which institutions respond to external assessment mandates shapes the nature of subsequent external demands (Aper, 1993; Boyer et al., 1987; Ewell, 1991, 1993, 1997; Ewell, Finney & Lenth, 1990; McGuinness, 1994). Among the dimensions of external strategy for student assessment discussed in the literature, three appear to be particularly important in distinguishing institutional orientations: existence of an external mandate for student assessment; timing of institutions' student assessment efforts relative to the imposition of external mandates; and whether assessment strategy is primarily oriented toward addressing external or internal purposes.

A primary distinction among external support strategies may be based simply on whether or not an institution must respond to an external mandate for student assessment. According to several multi-institutional surveys, the existence of external mandates for student assessment increases the likelihood that institutions will undertake student assessment efforts (El-Khawas, 1995; Hexter & Lippincott, 1990; Scott, 1991). However, other research suggests that externally

stimulated assessment activities may be less likely to produce institutional improvement than those originating from internal motives (Ory & Parker, 1989; Steele & Lutz, 1995).

In a related vein, scholars suggest that institutions' external strategy orientation may be distinguished by whether their student assessment approaches were implemented before, after, or conjointly with the imposition of external student assessment mandates (Ewell, 1994; Ewell & Boyer, 1988; Neal, 1995). Based on descriptive profiles of student assessment approaches undertaken at a variety of institutions, it appears that institutional assessment activities that predated (Hutchings & Marchese, 1990; Krueger & Heisserer, 1987; McClain, Krueger, & Taylor, 1986) or were developed concurrently (Banta, 1985, 1988; Banta, Fisher, & Minkel, 1986) with external mandates may be more comprehensive and have greater internal acceptance than those mounted after external mandates were enacted. However, no research was found that systematically compared institutions' assessment efforts on this basis.

Finally, institutions vary in the extent to which their student assessment efforts are primarily intended to satisfy external accountability requirements, respond to institutional needs, or address both internal and external purposes. Scholars have posited that an emphasis on internal rather than external assessment purposes will increase institutional engagement in assessment efforts and the probability that assessment information will be utilized for institutional change (Braskamp, 1991; Ewell, 1987a; Hutchings & Marchese, 1990; Sell, 1989a). While no comparative research was found to support the latter contention, there is some evidence that the adoption of a predominantly internal orientation to student assessment strategy is associated with institutions engaging in comprehensive student assessment approaches (Hyman, Beeler, & Benedict, 1994; Johnson et al., 1991; Muffo, 1992).

Taken together, these three dimensions suggest a continuum of external strategy orientations to student assessment ranging from proactive to responsive to reactive. A proactive orientation would be characterized by an institution undertaking student assessment efforts in advance of external mandates. Internal constituents would retain a sense of control over the implementation and utilization of assessment, and internal improvement purposes would predominate external accountability purposes for student assessment. A responsive orientation to external strategy would be exemplified by the following scenario: an institution's student assessment efforts were stimulated by an external mandate, but decision making regarding the form and process of student assessment would be shared among internal and external constituents, and assessment would be undertaken to meet the dual purposes of internal improvement and external accountability. Finally, a reactive external strategy orientation would be demonstrated by minimal or nascent institutional student assessment efforts undertaken in response to an associated external mandate. External accountability rather than internal improvement would be the primary purpose for assessment. Descriptions of assessment practices at several institutions suggest variations in external strategy orientations are predictive of varying levels of institutional support for student assessment efforts and utilization of student assessment information (Banta, 1985, 1988; Banta, Fisher, & Minkel, 1986; Hutchings & Marchese, 1990; Krueger & Heisserer, 1987; McClain, Krueger, & Taylor, 1986). Given the paucity of comparative studies of institutions' strategic responses to external mandates for student assessment, these propositions remain largely untested.

Internal Assessment Support Strategy

An institution's internal orientation to strategy can be best understood by examining its academic approach to a particular challenge or issue such as student assessment (Peterson et al., 1986). Four analytic dimensions of internal strategy have been proposed as important sources of institutional support for student assessment: purpose of student assessment; planning processes for student assessment; linkage of assessment efforts with academic mission and goals; and resource allocation decisions.

Purpose of student assessment efforts is a dimension that spans the domains of external and internal support strategy. Scholars contend the primary purpose for which an institution undertakes its student assessment efforts (whether for external accountability, internal improvement, or both) has an important effect on the content and design of its student assessment approach, the extent to which internal constituents are committed to assessment efforts, the administrative structures and governance patterns used for assessment decision-making, and the degree to which student assessment information impacts institutional performance (Aper et al., 1990; Mentkowski, 1991; Wolff & Harris, 1995). There is limited evidence linking an emphasis on internal improvement over external accountability purposes with the development of comprehensive student assessment programs (Hyman et al., 1994; Johnson et al., 1991; Muffo, 1992) but no truly comparative research was found regarding this dimension.

Scholars have identified the following characteristics of planning processes that effectively support student assessment efforts: formulating an explicit and visible student assessment plan (Braskamp, 1991); using a series of incremental planning steps such as identifying existing assessment activities (Banta et al., 1996; Payne et al., 1991; Thomas, 1991), examining assessment practices at other institutions (Ewell, 1988a; Knight & Lumsden, 1990; Mentkowski, 1991; Thomas, 1991), and mounting pilot projects (Curry & Hager, 1987; Ewell, 1984, 1987b, 1988a; Terenzini, 1989); and encouraging broad participation in the planning process, with extensive involvement of faculty (Braskamp, 1991; Eisenman, 1991; Halpern, 1987; Jacobi et al., 1987; Johnson et al., 1993), administrators, (Miller, 1988; Rossman & El-Khawas, 1987; Thomas, 1991; Winston & Miller, 1994), and, to a lesser extent, students (Banta et al., 1996; Duvall, 1994; Jacobi et al., 1987; Johnston et al., 1991; Somervell, 1993).

There is limited descriptive evidence available on the extent to which institutions' assessment planning approaches have reflected these characteristics. Two surveys of member institutions in the Middle States Association of Colleges and Schools (Gill, 1993; Patton et al., 1996) revealed an increase in the number of institutions having an institution-wide student assessment plan in place. Patton and colleagues (1996) found a greater proportion of public than private institutions had a formal assessment plan. Among institutions without a formal plan in place, the number of preparatory planning steps completed varied by institutional type with proprietary institutions completing the greatest number of planning steps and research institutions completing the fewest (Patton et al., 1996). In Johnson and colleagues' (1991) study of institutions identified as having comprehensive student assessment programs, faculty were most extensively involved in planning the assessment program and had progressively smaller degrees of involvement in the implementation, evaluation, and ongoing direction of student assessment; faculty involvement and integrating student assessment with institutional planning were perceived by institutional respondents as "best decisions" with respect to organiz-

ing student assessment efforts. No evidence was located that related specific planning characteristics with differences in the student assessment approach, institutional support for student assessment, or utilization of assessment information.

Scholars and practitioners have emphasized the important relationship between the content of an institution's academic mission and its student assessment efforts (Loacker & Mentkowski, 1993; Winston & Miller, 1994). Specifically, the following aspects of academic mission are conceived as meaningful influences on institutional support for student assessment: teaching and learning are emphasized over other institutional activities such as research or service (Banta, 1993; Hutchings & Marchese, 1990); intended educational outcomes are clearly specified in the mission (Braskamp, 1991); student assessment is specifically and clearly prioritized in the mission (Duvall, 1994); and the institution's choices of student assessment content and methods of assessment are congruent with educational goals and values contained in the mission (Barden, 1994). Variations in levels of institutional support for, approaches to, and utilization of, student assessment observed across institutional types (El-Khawas, 1993; Gentemann & Rogers, 1987; Jemmott, 1992/1993; Scott, 1991; Smith, Bradley, & Draper, 1993; Steele & Lutz, 1995) may be partially attributable to differences in institutional mission. Descriptions of assessment practices reveal that implementing student assessment efforts has prompted some institutions to reexamine and revise their institutional missions (Banta et al., 1996). However, no research was found that explicitly examined the relationship of academic mission and goals to institutional support for student assessment.

Resource allocation decisions are viewed as concrete indicators of the extent to which an institution is committed to and prioritizes student assessment efforts (Eisenman, 1991; Ewell, 1987c; Kells, 1992). Institutions can be compared with respect to the proportion of internal resources allocated to student assessment efforts; whether assessment resources are allocated through the general operating budget, through special appropriations, or from external sources; and whether assessment resources are allocated equally across internal units, on the basis of unit performance or some other distributive criteria.

Multi-institutional survey research has quite consistently shown that institutional respondents perceive inadequate resources as an important barrier to mounting student assessment efforts (Cowart, 1990; Gill, 1993; Muffo, 1992; Patton et al., 1996). Conversely, a comparative case study of fifteen pilot projects undertaken within a state university system reported that administrative support of assessment programs in the form of budgets and supplies was not predictive of program success (Riggs & Worthley, 1992). No evidence was located regarding the influence of specific resource allocation strategies on the implementation and utilization of student assessment.

Given the role of assessment support strategy in guiding related institutional efforts, its potential influence on assessment culture and climate, and the fact that its dimensions are malleable (Peterson, 1988), assessment support strategy is an important aspect of the institutional environment to examine. While general relationships among dimensions of external and internal strategy and institutional promotion of student assessment have been suggested and some descriptive research found, the relative influence of specific dimensions of strategy on institutional support for and the utilization and impact of student assessment efforts warrants more explicit consideration.

Leadership and Governance Patterns for Student Assessment

Leadership and governance patterns constitute two major areas that reflect institutional support for student assessment. Leadership refers to actions taken to shape an institution's purpose or direction (Trow, 1991). Academic leadership support is conceived as a key factor in initiating, implementing, and institutionalizing student assessment efforts (Banta & Associates, 1993; Banta et al., 1996; Braskamp, 1991; Jacobi et al., 1987; Rossman & El-Khawas, 1987). Institutional approaches to leadership support for student assessment can be differentiated along three content dimensions: patterns of participants involved in providing leadership for student assessment; leadership style; and leadership roles in support of student assessment.

Academic governance refers to the structures and processes used for institutional decision making. Governance dimensions related to student assessment design and implementation include the administrative structure used to guide student assessment efforts and nature of decision-making processes employed. Propositions and research evidence regarding these dimensions of leadership support and governance patterns for student assessment will be considered below.

Leadership Support

Scholars have argued that strong supportive leadership on the part of the president and senior administrators is critical for promoting internal involvement in student assessment efforts (Banta et al., 1996; Duvall, 1994; Ewell, 1988a; Rossman & El-Khawas, 1987; Sell, 1989b; Terenzini, 1989). Garnering support from formal and informal leaders among faculty and staff has also been cited as important (Banta, 1993; Sell, 1989b; Young & Knight, 1993). The involvement of faculty leaders in assessment-related decision making at institutions where faculty are unionized may be particularly consequential.

Descriptions of successful student assessment approaches at selected institutions attest to the important role played by senior formal leadership (Banta & Associates, 1993; Banta et al., 1996) and faculty unions (Jemmott, 1992/1993; Knight & Lumsden, 1990) with respect to supporting assessment efforts. Based on comparative case studies of community colleges, Richardson (1993) found that faculty in institutions with comprehensive collective bargaining agreements reported less engagement in effective faculty behaviors including student assessment, while Lang (1993) noted that having key faculty provide leadership for assessment efforts was an important factor related to the effectiveness of their student assessment programs.

Leadership style is discussed in the higher education literature as a critical influence on institutional culture and climate, responsiveness to change, and effectiveness (Peterson et al., 1986). Several comparative dimensions of leadership style have been proposed: rational, political or consensual; participatory or bureaucratic; and interpretive, strategic or administrative (Bensimon, Neumann, & Birnbaum, 1989; Birnbaum, 1988; Peterson et al., 1986). The student assessment literature generally advocates the use of a participatory leadership style as the most effective means of implementing and sustaining student assessment efforts (Banta et al., 1996; Dixon, 1994; Ewell, 1988a). A participatory leadership style seems consonant with the relatively high degree of faculty autonomy found within many higher education institutions

(Clark, 1987). However, to date the relationship of different leadership styles on institutional support for student assessment has not been systematically examined.

Leadership support for student assessment may take more concrete forms such as: repeatedly communicating that student assessment is an institutional priority (Duvall, 1994; Eisenman, 1991; Krueger & Heisserer, 1987; Peacock, 1994; Sell, 1989b; Young & Knight, 1993); clearly stating the purpose, general parameters, and intended uses of assessment efforts (Banta & Associates, 1993; California State University Institute for Teaching and Learning [CSUITL], 1993; Katz, 1993; Knight & Lumsden, 1990; Rossman & El-Khawas, 1987; Terenzini, 1989); and committing adequate resources to support assessment initiatives (American College Testing [ACT], 1990; Eisenman, 1991; Jones & Ewell, 1993; Miller, 1988; Nettles, 1987; Ryan, 1993; Sell, 1989b). Despite the plausibility of these contentions, no empirical evidence was found regarding the relationship of specific forms of leadership support to student assessment efforts.

Governance Patterns for Student Assessment

Administrative structure for student assessment refers to the manner in which responsibilities for overseeing student assessment decisions are assigned to positions, organizational levels, and functional areas within an institution. Institutions may create a new position or committee to oversee student assessment activities or may designate this responsibility to an existing position or committee (Johnson et al., 1993). They can choose to use academic administrators, institutional researchers, faculty members or some combination of these personnel as student assessment coordinators (Ewell, 1987a, 1988a, 1988b; Nichols, 1991; Sims, 1992; Terenzini, 1989; Thomas, 1991). Student assessment responsibilities may be positioned within academic affairs, student affairs, institutional research or some other functional area; of these, placement within academic affairs is expected to contribute most to building internal support for student assessment (Ewell, 1984, 1987a).

A few studies have examined the administrative structures associated with institutions' student assessment efforts. Using data from a stratified national sample of postsecondary institutions with comprehensive student assessment programs, Johnson and colleagues (1991) observed that executive responsibility for assessment was most frequently positioned in academic affairs; operational responsibility was more often given to an administrator than to a faculty member; less than half had created a separate coordinating office for assessment; but most reported having other administrative structures in place such as faculty and administrative committees. Cowart's (1990) study of two-year colleges found that assigning a specific coordinator for student assessment efforts was positively associated with the breadth of student information collected and internal perceptions of the effectiveness and importance of student assessment. Based on their meta-analysis of multiple case studies, Riggs and Worthley (1992) reported that using project coordinators with expertise in assessment lead to greater institutional impact of student assessment efforts. Beyond these findings, the relative influence of various administrative structures on institutional support for or utilization and impact of student assessment appears to be untested.

Governance patterns refer to the decision making process for addressing key decisions about student assessment. The degree of centralization and patterns of decision-making responsibility are important governance dimensions. Decision-making processes for student assessment

may be centralized in upper hierarchical levels or organizational units of the institution, decentralized across institutional levels and units, or may employ a combined approach in which assessment strategy is a centralized responsibility while decisions regarding assessment implementation are decentralized to lower organizational levels (Banta & Associates, 1993; Banta et al., 1996; Ewell, 1984; Knight & Lumsden, 1991). Despite some evidence of conflicting opinions among scholars regarding the relative merits of a centralized, decentralized or combined approach (Ewell, 1984; Thomas, 1991), in general, decentralized decision-making processes have been advocated (Astin, 1991; Banta et al., 1996; Ewell, 1984; Marchese, 1988; Mather, 1991; Terenzini, 1989). Descriptive profiles of assessment practices at a variety of institutions suggest many have used a combined approach to governance (Banta & Associates, 1993; Banta et al., 1996; Marchese, 1988). Data from two multi-institutional surveys revealed that the centralization of governance patterns varied across the phases of planning, implementation, evaluation and utilization of student assessment (Johnson et al., 1991; Patton et al., 1996). Ory and Parker (1989) associated the highly decentralized nature of assessment activities within their sample of research universities with respondents' limited knowledge of campus assessment efforts.

Regarding patterns of participation in decisions, the involvement of faculty in assessment-related decision making has been particularly recommended as a means of promoting greater internal support for student assessment (Banta & Associates, 1993; Eisenman, 1991; Sell, 1989). Patton and colleagues (Patton et al., 1996) noted that smaller institutions (enrollments of 5,000 students or less) relied more on faculty and academic administrators and less on institutional researchers for analysis of student assessment data while larger institutions (enrollments of more than 15,000 students) made more use of academic administrators and institutional researchers and less use of faculty for this purpose. One study found that faculty involvement in the planning stage of student assessment was not an important predictor of achieving positive outcomes from student assessment projects (operationally defined as project continuance, additional funding, gains in student achievement, curricular impact, and teaching improvement) while faculty participation in the implementation of the project was the strongest predictor (Riggs & Worthley, 1992). Still other scholars contend that student affairs personnel, non-academic staff, administrators, students (Erwin, 1991b; Jacobi et al., 1987; Thomas, 1991) and individuals from beyond the campus (AAHE, 1992; Astin, 1991) should also participate in assessment decisions.

In summary, the degree of centralization and patterns of decision-making participation to be recommended in student assessment governance may depend upon which specific decision phase of the student assessment process is under consideration. Despite the importance accorded to leadership actions and governance patterns in supporting student assessment efforts, there has been little empirical examination of the comparative influences of dimensions within this domain on the nature, support for and impact of institutions' student assessment efforts. Extant evidence is more often anecdotal than systematic, and more descriptive than relational.

Academic Management Policies and Practices for Student Assessment

Academic management policies and practices for assessment refer to specific policies, procedures, and practices intentionally devised by institutions to implement and support student assessment efforts. The extent to which administrators revise institutional policies and prac-

tices to consistently support the student assessment approach is considered a critical determinant of the sustainability and effectiveness of assessment efforts (Ewell, 1988a; Sell, 1989b).

Several content dimensions of this domain have been suggested as important influences on student assessment: resource allocation for student assessment (Ewell, 1984, 1987a, 1987b, 1987c, 1988a; Thomas, 1991); student assessment information and analytic support systems (Ewell, 1984, 1988a; Terenzini, 1989); communication with internal and external constituencies about student assessment (Ewell, 1984, 1988b; Hutchings & Marchese, 1990; Jacobi et al., 1987; Miller, 1988; Ryan, 1993); student policies on student assessment (Banta et al., 1996; Duvall, 1994; Erwin, 1991b; Ewell, 1988b; Loacker & Mentkowski, 1993); professional development (Banta et al., 1996; Ewell, 1988b; Gentemann et al., 1994); faculty evaluation and rewards (Astin & Ayala, 1987; Banta & Associates, 1993; Banta et al., 1996; Ewell, 1984, 1988b; Ryan, 1993; Terenzini, 1989; Watt, Drennen, Rodrigues, Menelly, & Weigel, 1993); and academic planning and review (Chaffe-Stengel, 1992; Ewell, 1984, 1987a, 1987b, 1988a, 1997; Gentemann, Fletcher, & Potter, 1994; Hlebowitsh, 1995). Specific practices have been endorsed within each of these content dimensions.

Institutions must address two broad issues regarding resource allocation policies and practices for student assessment. Of primary concern is the type and amount of resources provided to support assessment activities. Scholars suggest that consistent and adequate fiscal, physical and staff resources need to be committed to the following expenditure categories: establishing and maintaining an assessment office (Altieri, 1990; Dixon, 1994; Eisenman, 1991; Johnson et al., 1991; Miller, 1988; Muffo & Metz, 1996; Ryan, 1993; Thomas, 1991); developing and implementing specific student assessment measures, and analyzing and acting upon assessment results (Nettles, 1987; Wade, 1989/1990); and supporting assessment-related professional development opportunities for administrators, faculty and staff (Braskamp, 1991; Ellison & Heard, 1996). Secondly, institutions must decide the nature of the linkage between student assessment efforts and institutional resource allocation decisions. Building in a direct link between student assessment efforts and processes for internal resource allocation is expected to enhance the importance accorded to student assessment, internal participation in assessment activities, and utilization of assessment results (Ewell, 1987a, 1987b, 1987c, 1988a; Gill, 1993; Thomas, 1991).

In terms of student assessment information and analytic support systems, institutions are advised to develop computerized systems that integrate information from many data bases (Astin & Ayala, 1987); encompass entering, continuing, non-returning, and graduated students and include information on student characteristics, educational ability and performance, expectations, perceptions and attitudes (Gentemann et al., 1994); are capable of tracking students over the course of their enrollment (Bray & Kanter, 1996); and are accessible to many individuals within the institution (Krueger & Heisserer, 1987; Sell, 1989b).

Specific recommendations are offered for communicating about student assessment, particularly as institutions first embark upon and subsequently report information from their assessment efforts. In the initial stages of planning an assessment approach, clearly communicating the intended purposes of student assessment (Ewell, 1988a; Knight & Lumsden, 1990; Terenzini, 1989) and involving a wide variety of campus members in planning discussions (Banta et al., 1996; Braskamp, 1991; Terenzini, 1989) are practices expected to enhance the

appropriateness of assessment-related decisions (Jacobi et al., 1987) and reduce internal opposition to assessment efforts (Ervin, 1988; Muffo, 1992; Ryan, 1993; Thomas, 1991). Once data has been collected, scholars recommend that institutions provide frequent and widespread dissemination of student assessment information (Ewell, 1984, 1988a; Krueger & Heisserer, 1987), customize the content of assessment reports to specific audience needs (Ewell, 1984, 1988a; Ryan, 1993; Thomas, 1991; Winston & Miller, 1994), and offer forums to discuss the meaning and institutional implications of student assessment results (AAHE, 1992; Ewell, 1984, 1988a; Mentkowski, 1991; Thomas, 1991). To a lesser extent, institutions are encouraged to communicate information regarding student assessment plans, activities, results, utilization and impacts with external constituencies (Banta et al., 1996; Education Commission of the States, 1990).

Recommended practices for addressing student-related concerns in student assessment approaches relate to two main areas: linking the assessment approach with student support services and encouraging student participation in assessment efforts. Institutions are advised to include student affairs personnel in student assessment planning, implementation and dissemination of results (Erwin, 1991b; Hanson, 1982). Students' involvement in assessment may be enhanced by clearly articulating the purpose of assessment (Duvall, 1994; Loacker & Mentkowski, 1993), offering incentives (Duvall, 1994) and rewards (Duvall, 1994; Van Stewart, 1996) for their participation (Duvall, 1994), and by providing students with feedback regarding assessment results (Dixon, 1994; Duvall, 1994; Loacker, 1988).

Professional development practices have mainly been considered in relation to faculty. Faculty involvement in student assessment activities and use of assessment results is thought to be enhanced if institutions support faculty participation in professional development opportunities regarding student assessment-related topics (Banta et al., 1996; Ewell, 1988b; Gentemann et al., 1994; Knight & Lumsden, 1990; Young & Knight, 1993). Further, institutions can develop programs to assist faculty interested in using student assessment to improve their teaching or course design (Peterson, Cameron, Knapp, Spencer, & White, 1991; Pratt, 1991). Presumably, the provision of assessment-related professional development opportunities would also be appropriate for administrators, staff and students who are involved in assessment efforts.

Conflicting endorsements are offered regarding the association between faculty evaluation practices and student assessment. The predominant stance among scholars is that student assessment results should not be tied to faculty performance evaluation (Banta & Associates, 1993; Duvall, 1994; Ewell, 1984; Garcia & Pacheco, 1992; Halpern, 1987; Ryan, 1993; Young & Knight, 1993). However, others have advocated that faculty participation in evaluation efforts should be included as performance criteria in evaluation for tenure, promotion, and retention (CSUITL, 1993; Twomey, Lillibridge, Hawkins, & Reidlinger, 1995; Watt et al., 1993). Institutions can provide a wide variety of incentives or rewards to faculty and administrators who are willing to be involved in student assessment (Astin & Ayala, 1987; Ewell, 1988b; Krueger & Heisserer, 1987; Watt et al., 1993). Salary increases, office assignments, stipends, release time, sabbaticals, public recognition, clerical support, travel perks, and promotions have been variously cited as ways to achieve widespread, more committed internal involvement in student assessment (Banta et al., 1996; Cohen, Chechile, & Smith, 1996; Ewell, 1984; Loacker, 1988; Scott, 1992; Terenzini, 1989).

Finally, several scholars have advocated integrating institutions' student assessment approaches with academic planning and review. Such linkages may be established with institutional processes for academic department or program planning and review (Chaffe-Stengel, 1992; Ewell, 1988a, 1997), curriculum development and review (Ewell, 1984, 1988a, 1997; Hlebowitsh, 1995), or planning and review of student academic support services (Erwin, 1991b; Hanson, 1982). Overall, the establishment of formal linkages between assessment efforts and academic planning is expected to promote internal participation in assessment efforts and produce more discernible institutional impacts of assessment (Ewell, 1987a, 1987b, 1997).

In addition to the nature of discrete practices within each content area of academic management policies or practices, conceptual dimensions of the comprehensiveness of, the supportiveness of, the coordination between, and the consistency among them may also shape the extent to which such practices support student assessment efforts (Peterson, 1988; Peterson et al., 1986).

There is scant empirical evidence of the extent to which various academic management policies and practices have been used by institutions to support student assessment. A few studies have provided descriptive information on this domain, such as the form of institutional communications about student assessment (Patton et al., 1996), the adequacy of student assessment information systems (Astin & Ayala, 1987; Gill, 1993), and the existence of linkages between student assessment efforts with institutional processes for resource allocation, planning and program review (Barak & Sweeney, 1995). Little evidence was located regarding how these academic management policies and practices were influenced by external sources or institutional context or how they affected the use of student assessment information. One study of fifteen student assessment projects found the breadth of the intended audience for assessment reports was positively related to an assessment program's success (CSUITL, 1993). Beyond the need for more systematic, descriptive data regarding this domain, it is important to consider which patterns of academic management policies and practices are most effective at supporting student assessment practices, and ultimately, in promoting institutional use of student assessment information and academic change that enhances student performance.

Student Assessment Culture and Climate

Culture and climate are recognized as important domains of the organizational and administrative environment (Peterson, Cameron, Knapp, Spencer, & White, 1991; Peterson et al., 1986; Peterson & Spencer, 1990) and are also frequently mentioned in the literature on student assessment (Banta & Associates, 1993; Banta et al., 1996; Braskamp, 1991; Miller, 1988). Culture and climate may influence the nature of student assessment efforts undertaken by an institution, and may also be shaped by these efforts. Although the terms climate and culture are used interchangeably in the literature, they do reflect different aspects of institutional functioning and may hold different implications for institutions wishing to modify their culture or climate for student assessment. Consequently, we consider them as conceptually distinct area of this domain of the organizational and administrative environment for student assessment. We will discuss the nature and associated dimensions of student assessment culture and of climate and empirical evidence of their relationship to institutional support for student assessment separately.

Student Assessment Culture

From an organizational perspective, culture refers to values, beliefs and ideologies that members share about their institution. The content of culture is comprised of a few broad categories such as the institution's purpose, values or philosophy of education related to student assessment. These views are deeply ingrained, relatively resistant to change, and provide institutional members with a sense of belonging and of being distinctive. Organizational cultures can be compared on the basis of their content focus, clarity, strength of influence on members' behavior, congruence among the key content elements of culture, consensus among members, continuity over time, and distinctiveness (Peterson, 1988; Peterson et al., 1991; Peterson et al., 1986; Peterson & Spencer, 1990). Given differences in institutional missions, emphasis on teaching and learning, and the strength of differing organizational cultures across institutional types (Clark, 1987), variations in the extent to which organizational cultures are supportive of student assessment may be expected.

Scholars (Banta et al., 1996; Jones & Ewell, 1993; Wolff & Harris, 1994) describing assessment-supportive cultures in higher education institutions discuss the following elements: institutional beliefs and values about student assessment; philosophy of student assessment; and governance style for assessment.

Members' involvement in student assessment efforts is expected to vary with their beliefs that the institution clearly values: teaching and learning (Banta & Associates, 1993; Eisenman, 1991; Hutchings & Marchese, 1990; Hyman et al., 1994; Sundre & Cameron, 1996); examination of the influences on student learning (Eisenman, 1991; Marchese, 1988; Wolff & Harris, 1994); student assessment as a means of improving student learning (Banta et al., 1996; Mentkowski, 1991; Ryan, 1993; Sell, 1989b); and innovation and risk-taking (Braskamp, 1991; Kells, 1992; Ryan, 1993).

Several beliefs implicit in student assessment have been suggested, including: knowledge can be demonstrated and measured; knowledge can change; knowledge acquisition is influenced by institutional experiences; feedback about performance stimulates further learning; and the assessment of knowledge and revision of institutional experiences to improve learning must be continual processes (Loacker & Mentkowski, 1993).

Finally, collegial governance styles that promote broad participation in institutional decision making about student assessment are expected to foster an assessment-supportive culture (Hyman et al., 1994; Jacobi et al., 1987; Kells, 1992; Mentkowski, 1991).

Differences have been observed in the willingness of different types of institutions to be involved in student assessment and the extensiveness of student assessment activities approaches undertaken (Furhmann & Gentemann, 1993; Jemmott, 1992/1993; Ory & Parker, 1989; Scott, 1991; Watt et al., 1993). While these differences may be attributable to variations in the supportiveness of organizational cultures for student assessment, no explicit examination of this relationship was found.

Student Assessment Climate

Climate refers to "current organizational patterns of important dimensions of organizational life, together with members' perceptions and attitudes toward them" (Peterson, 1988, p. 31). Compared to culture, the content of climate focuses on many more specific aspects of institutional activity and functioning, emphasizes commonalities among members' perceptions of these activities, and is more changeable (Peterson, 1988; Peterson et al., 1991; Peterson et al., 1986). Three types of climate have been distinguished.

"Objective climate" refers to observable patterns of behavior in an institution (Peterson, 1988; Peterson et al., 1991). Dimensions of the institutional environment considered earlier, such as the assessment approach, the support strategy, the leadership and governance support patterns, and the academic management practices for student assessment, comprise an institution's objective climate for student assessment. "Perceived climate" refers to members' perceptions about how the institution does function or their beliefs about how it should function (Peterson, 1988; Peterson et al., 1991). Members' perceptions and beliefs about these various dimensions of organizational and administrative support for student assessment, which may or may not be congruent with those intended by the institution, are considered to influence the perceived climate for student assessment. The third type, "motivational climate," relates to members' feelings or attitudes toward their institution, its policies and practices, and their role within the institution. Specific dimensions of motivational climate cited as critical aspects of implementing effective student assessment approaches include members' commitment to, involvement in, and satisfaction with assessment-related activities (Astin, 1991; Braskamp, 1991; Eisenman, 1991; Erwin, 1991a; Ewell, 1984, 1988b).

Here, our primary interest is the perceived and motivational climate for student assessment. Despite their conceptual distinctions, these constructs are intertwined in practice. Members' perceptions and beliefs about institutional efforts to support student assessment may shape their attitudes toward, and involvement in, student assessment efforts. Dimensions of the organizational and administrative environment suggested as influencing the perceived and motivational climate for student assessment include: purpose of student assessment; relationship of institutional mission to student assessment; leadership support and governance patterns for student assessment; and academic management policies and practices for student assessment.

Scholars (Braskamp, 1991; Eisenman, 1991; Ewell, 1988b; Jacobi et al., 1987; Ryan, 1993) contend that institutional members will be more involved in, and committed to, student assessment if they believe the primary purpose of these efforts is to promote institutional improvement and that internal or external accountability requirements are of secondary importance.

Members' participation in student assessment is expected to be positively related to members' views that the content and measures comprising the student assessment approach are congruent with institutional mission and values (AAHE, 1992; Barden, 1994; Braskamp, 1991; Loacker & Mentkowski, 1993; Terenzini, 1989). Relatedly, perceived and motivational climate is thought to depend in part upon the extent to which members' perceive that student assessment addresses institutionally-relevant concerns or issues (AAHE, 1992; Marchese, 1988; Sells, 1989b).

Scholars contend (AAHE, 1992; Braskamp, 1991; Ewell, 1988a; Jacobi et al., 1987) that the extent to which members' perceive institutional leaders as supporting student assessment is an important influence on the development of a positive climate for students. Further, the nature of governance approaches for student assessment have been suggested as shaping members' beliefs and attitudes toward assessment. The use of an incremental planning approach to assessment (Wolff & Harris, 1994); and the use of broad internal participation in planning, implementing, and evaluating student assessment efforts (CSUITL, 1993; Ewell, 1984, 1988b; Hutchings & Marchese, 1990; Kells, 1992) are both conceived as fostering a positive assessment climate.

Among the academic management policies and practices expected to bolster the perceived and motivational climate for student assessment are: allocating adequate resources for assessment efforts (AAHE, 1992; Banta et al., 1996; Ryan, 1993); integrating assessment activities with other institutional processes and practices such as planning and resource allocation (Eisenman, 1991; Wolff & Harris, 1994); using student assessment information in institutional planning, budgeting and human resource decisions (AAHE, 1992; Ewell, 1984, 1988a); and providing incentives or rewards to units or members who participate in assessment efforts (Eisenman, 1991; Ewell, 1984; Hutchings & Marchese, 1990; Ryan, 1993; Steele & Lutz, 1995; Thomas, 1991).

Some research suggests the climate for student assessment, and hence the extensiveness of student assessment efforts, is negatively associated with internal concerns about possible external misuse of student assessment information (Hyman et al., 1994; Johnson et al., 1991; Muffo, 1992; Ory & Parker, 1989) and positively associated with leadership support for student assessment (Jemmott, 1992/1993; Scott, 1991).

Overall, empirical support regarding the relationship between culture, climate and student assessment approaches, support, utilization and impact is limited and quite general in nature. With few exceptions (CSUITL, 1993; Richardson, 1993), variations in assessment culture and climate have not been linked to specific patterns of external influences, assessment approach, or organizational and administrative support. Discussions of the culture and climate for student assessment have focused on faculty (e.g., Erwin, 1991a; Ewell, 1984; Jacobi et al., 1987; Ryan, 1993) and students (Duvall, 1994; Erwin, 1991a; Loacker & Mentkowski, 1993), with comparatively little consideration given to influences on administrators' motivation and commitment.

Evaluation and Revision of Student Assessment

Scholars have recommended that institutions should continually and systematically evaluate and revise their approaches to student assessment (AAHE, 1992; Banta et al., 1996; Loacker & Mentkowski, 1993; Sell, 1989b; Sims, 1992; Wolff, 1992). Criteria (National Forum on Assessment, 1992; Ory, 1992) and guidelines (Nichols, 1991; Sims, 1992; Thomas, 1991) for evaluating assessment programs have been developed. However, there has been little written about whether and how institutions have approached the evaluation and revision of their student assessment efforts. In one study of institutions in the Middle States accreditation region, very few respondents had evaluated the effectiveness of their student assessment instruments and activities or the extent to which student assessment data had been analyzed or utilized (Patton

et al., 1996). No research was found regarding the influence of various dimensions of the external or organizational/administrative environments on institutions' evaluative approaches, or whether evaluative efforts were associated with differences in the institutional utilization and impact of student assessment.

Institutional Context

Variations in institutions' responses to external pressures for student assessment, the nature of student assessment practices undertaken, and degree of institutional support provided are partly attributable to differences in relatively fixed institutional characteristics. Among the specific aspects of institutional context suggested by scholars as being influential are institutional type or degree-granting classification (e.g., research, doctoral-granting, master's, baccalaureate or associate's degree) (Ewell, 1988a, 1993), control (Ewell, 1987b), size and organizational complexity (Dill, 1997), and prestige (Peterson et al., 1986). The relationships between these dimensions of institutional context and institutional responses to external mandates, approaches to and support for student assessment have been explored empirically to various degrees.

For the most part, institutional type has been defined using the Carnegie Foundation classification scheme (Carnegie, 1987). Research and doctoral-granting institutions have been characterized by some researchers as responding to external mandates for student assessment with opposition (Jemmott, 1992/1993) or superficial compliance (Ory & Parker, 1989; Scott, 1991). In research conducted on a national basis (El-Khawas, 1990, 1992, 1995), among member institutions of regional accreditation associations (Gentemann & Rogers, 1987; Gill, 1993; Patton et al., 1996), and within single states (Jemmott, 1992/1993; Scott, 1991), research and doctoral institutions have generally reported less extensive involvement in student assessment activity than other types of postsecondary institutions. Cross-sectional studies of the extent and nature of student assessment activity undertaken by non-doctoral-granting institutions have produced mixed findings (Gentemann & Rogers, 1987; El-Khawas, 1993; Johnson et al., 1991; Kalthoff & Lenning, 1991; Steele & Lutz, 1995). Time series data provided by the *Campus Trends* surveys (El-Khawas, 1990, 1992, 1995) suggest that formerly observed differences in the percentage of different types of non-doctoral institutions engaged in student assessment are disappearing. However, results are difficult to interpret across studies because of variations in sampling designs and specific wording of questions. Finally, there is some evidence of variations in the content of approaches to student assessment by institutional type (Steele et al., 1997; Steele & Lutz, 1995). Compared to four-year institutions, two-year institutions were more likely to assess basic college-level skills and student outcomes measures such as completion of intended program, continuing education, job placement, employer satisfaction, and alumni satisfaction (Hexter & Lippincott, 1990).

There has been some scholarly discussion of possible differences in the issues and nature of student assessment approaches within proprietary institutions (Moore, 1992), tribal colleges (Barden, 1994; Ohia & Hayes, 1993), historically black institutions (Ohia & Hayes, 1993), and technology-based institutions (Johnstone & Krauth, 1996; Western Governors University Goals and Vision, 1997) and for those institutions serving adult (Dixon, 1994; Hawkes & Pisaneschi, 1992; Jackson, Barnett, Caffarella, Lee & Macisaac, 1992), part-time (Pascarella & Terenzini,

1991) or minority students (von Destinon, Ganz & Engs, 1993; Garcia, 1990, Nettles, 1991). No empirical research was found relating to student assessment within these institutional types.

Public institutions have been more likely than those under private control to report some form of student assessment activity (El-Khawas, 1990, 1992, 1995; Gentemann & Rogers, 1987; Johnson et al., 1991; Woodard, Hyman, von Destinon, & Jamison, 1991). While independent institutions were less likely than public institutions to report having a state requirement for student assessment (El-Khawas, 1990, 1995), they have been slightly more likely (El-Khawas, 1990, 1992, 1995) to report that student assessment activities were a part of their regional accreditation self-study requirements.

Scholars contend that large, organizationally complex institutions may face greater challenges in mounting and sustaining student assessment activities than institutions with smaller enrollment and fewer organizational levels and units (Dill, 1997; Jemmott & Morante, 1993; Watt, Drennen, Rodrigues, Menelly & Wiegel, 1993). Only one study was identified that analyzed student assessment efforts by size of institutional enrollment. Woodard and colleagues (Woodard, Hyman, von Destinon & Jamison, 1991) found minimal differences in the extent of student assessment plan development among various types of institutions.

Further, only one study was found that specifically considered the effect of institutional prestige on student assessment efforts. Muffo (1992) reported that respondents at prestigious public institutions, defined in terms of admissions selectivity, were least supportive of student assessment activities and suggested that the inverse may be true for institutions with less prestige.

There is clearly evidence that dimensions of institutional type and control are associated with differences in the extent and nature of institutions' student assessment efforts and may moderate the influence of various domains of the external environment on assessment activities. No research was found regarding the linkage between institutions' religious affiliation or curricular emphasis and student assessment. The relationship of institutional context to organizational and administrative support for, and use and impact of, student assessment remains relatively unexplored.

Summary of Organizational and Administrative Environment Influences

The domain of student assessment support strategy has received little explicit attention in the conceptual or practice-oriented literature and almost none in the empirical literature—despite its potential importance for shaping an institution's interface with external agents, the nature of and degree of institutional support for its student assessment approach. Perhaps of all the domains of the organizational and administrative environment, leadership support has been posited by scholars as being the most influential in promoting an institution's involvement in student assessment. Yet, no comparative research was found regarding the relationship of varying levels, sources or styles of leadership support on student assessment approaches or impacts. There is some descriptive evidence of the administrative structures and governance processes used for student assessment decision making, but less consideration of their relationship to institutional support for and uses of assessment. A number of academic management

policies and practices have been suggested as means of effectively supporting student assessment efforts. The strongest theme emerging from the literature in this domain is the need to establish explicit linkages between student assessment efforts and other institutional processes. However, there has been limited examination of the extent to which institutions have enacted these policies and practices or of their influence on assessment support or impacts. Similarly, there is considerable anecdotal consideration but scant empirical evidence available to support contentions regarding the influences on and consequences of institutions' cultures and climates for student assessment. Finally, although scholars advocate continual evaluation and revision of student assessment approaches, this appears to be an infrequent practice. No evidence was found regarding the relationship between evaluation and other framework domains. In sum, despite offering considerable discussion of the domains of the organizational and administrative environment and their potential influence on institutional support for, and uses and impacts of student assessment, the extant literature provides little descriptive or relational evidence regarding organizational and administrative support patterns.

The ultimate criterion of the effectiveness of a student assessment approach is whether it is used to inform changes or has other impacts that improve institutional performance. Our remaining task is to consider how institutions have made use of student assessment information in academic decision making and what internal and external institutional impacts have been realized.

Institutional Utilization and Impact of Student Assessment

Utilization of Student Assessment Information in Academic Decision Making

Institutional strategy and academic management policies and practices are two major areas of institutional decision making that may profit from student assessment efforts. The following dimensions of strategic decision making have been identified as potential arenas for utilizing assessment information: academic planning decisions (Ewell, 1987a, 1987b, 1997); revising institutional mission and goals (Banta et al., 1996; Ewell, 1984; Jacobi et al., 1987); and internal resource allocation decisions (Ewell 1984, 1987a, 1987b, 1987c, 1988b; Thomas, 1991). Current evidence, although limited and somewhat conflicting, suggests institutions have most often used student assessment information in planning decisions (Cowart, 1990; El-Khawas, 1989b; Johnson et al., 1991; Steele & Lutz, 1995) and to a lesser extent, resource allocation decisions (Cowart, 1990; Ory & Parker, 1989).

Prescriptive and anecdotal literature suggests that student assessment information can be used to reshape many areas of academic management policies and practices including: academic program review (AAHE, 1992; Ewell, 1988a, 1997; Gentemann et al., 1994); academic staff selection criteria (Friedlander, Murrell, & MacDougall, 1993); professional development offerings for faculty, staff and administrators (Banta et al., 1996; Friedlander et al., 1993; Knight & Lumsden, 1990); evaluative criteria for faculty tenure, promotion and retention decisions (Ewell, 1988b; Jones & Ewell, 1993; Loacker, 1988); reward structures for faculty and administrators (Ewell, 1984, 1988b; Thomas, 1991); and the design and content of a variety of student support services such as registration processes (Williford & Moden, 1993), tracking systems (RiCharde, Olny, & Erwin, 1993), orientation activities (Young & Knight, 1993), and student

advisement, counseling and placement practices (Banta, 1985; Blanzy & Sucher, 1992; Walleri & Seybert, 1993; Williford & Moden, 1993).

Limited evidence from multi-institutional research indicates that institutions are most likely to use student assessment information in decisions about program review (Barak & Sweeney, 1995) and student support services (Hyman et al., 1994; Ory & Parker, 1989). Conversely, institutions appear unlikely to use student assessment information in decisions regarding faculty development and faculty rewards (Cowart, 1990; Steele & Lutz, 1995).

Institutional Impact of Student Assessment

Four major areas of institutional impact from student assessment efforts are reflected in the literature: student performance, faculty behavior, curriculum, and student assessment culture and climate.

Despite the entire focus of student assessment on students, the literature offers little direct evidence of changes in students' academic performance as a result of student assessment approaches or various institutional support efforts (Banta & Associates, 1993; Banta et al., 1996). A few institutions have reported increases in student achievement on standardized examinations (Bowyer, 1996; Krueger & Heisserer, 1987; Magruder & Young, 1996). More often, institutions have attributed enhancements in indirect measures of student performance to student assessment efforts. These include positive impacts on student retention (Blanzy & Sucher, 1992; Walleri & Seybert, 1993) and pursuit of further education (Young & Knight, 1993); student involvement in learning, as reflected in time spent studying, library usage (Krueger & Heisserer, 1987), interaction with faculty (Williford & Moden, 1993), and participation in class discussions (Friedlander, 1993); and student satisfaction with instructional experiences (Krueger & Heisserer, 1987; Williford & Moden, 1993). Multi-institutional research provides limited and conflicting evidence as to whether student assessment efforts have produced gains in student performance (CSUITL, 1993; Johnson et al., 1991).

According to descriptions of assessment practices at various institutions, student assessment efforts have stimulated changes in the instructional methods and activities employed by faculty, generally in the direction of more student-centered or active teaching approaches (Banta et al., 1996; Banta & Moffett, 1987; Lang, 1993; Friedlander et al., 1993; Young & Knight, 1993). Similarly, on the basis of student assessment information, faculty at some campuses have modified the nature and content of course-embedded assessments of student learning (Katz, 1993; Loacker & Mentkowski, 1993; Williford & Moden, 1993; Young & Knight, 1993). However, multi-institutional studies provide equivocal evidence regarding the impact of student assessment efforts on faculty instructional practices (Cowart, 1990; CSUITL, 1993).

Evidence from multi-institutional studies (Cowart, 1990; CSUITL, 1993; El-Khawas, 1989a, 1995) and descriptions of single institution experiences (Banta & Associates, 1993; Banta et al., 1996) suggest curriculum development and revision is the most common institutional impact derived from student assessment. More specifically, institutions have used assessment information to guide changes in course content, length, and sequencing (Knight & Lumsden, 1990;

Walleri & Seybert, 1993; Young & Knight); the balance of required and elective courses (Katz, 1993); standards for student achievement (Krueger & Heisserer, 1987; McClain et al., 1986; Young & Knight, 1993); and course evaluation procedures (Banta, 1996).

Extant research has not explicitly examined changes in culture associated with student assessment. However, descriptions of single institutions' experiences suggest assessment efforts have led to the development of shared institutional values emphasizing student learning (Williford & Moden, 1993), stronger institutional identification (Krueger & Heisserer, 1987), and increased collegiality between faculty and administrators (Friedlander et al., 1993). These changes are consistent with the profile of an assessment-supportive culture offered in the literature. Observers of assessment programs at single (Friedlander et al., 1993; Young & Knight, 1993) and multiple institutional sites (CSUITL, 1993) have noted greater visibility of student assessment efforts, reflective of changes in the perceived climate for student assessment. Further, attitudinal changes among internal constituencies have been attributed to student assessment activities such as increases in faculty satisfaction (Katz, 1993; Young & Knight, 1993) and interest in teaching (Friedlander et al., 1993; Hutchings & Marchese, 1990), and enhanced commitment to student assessment on the part of faculty (CSUITL, 1993; Hutchings & Marchese, 1990) and administrators (Johnson et al., 1991). These changes are consonant with a positive motivational climate for student assessment.

External Institutional Impact

Student assessment efforts may also produce changes in the relationship between an institution and dimensions of the external environment. According to survey research, the most common external use of student assessment information is to respond to state and/or regional or specialized accreditation reporting requirements (Cowart, 1990; El-Khawas, 1995; Ory & Parker, 1989). To a lesser extent, institutions may disseminate information about student assessment plans or results to other educational institutions, the general public, the local business community, prospective students and parents, and alumni and/or prospective donors (Banta et al., 1996). A few institutions have credited assessment efforts and results with increases in institutional reputation, the number and academic potential of student applicants (Young & Knight, 1993; Williford & Moden, 1993; McClain et al., 1986), and allocations of state funding (McClain et al., 1986). No systematic empirical examination of this dimension was located.

Summary of Institutional Utilization and Impact of Student Assessment

While little is known about patterns of institutional utilization, it appears that student assessment information is most often used internally to inform decisions about academic planning, program and curriculum development and review, and student support services. Relatedly, programmatic and curricular change has been the most frequently reported internal impact of student assessment. There is less support available regarding the impact of student assessment on student's academic performance or faculty teaching practices. Few institutions have measured external impacts realized through assessment efforts. Most evidence regarding the utilization and impact of student assessment information is descriptive and often derived from

observations at single institutions. There is little systematic empirical research regarding the relationship of various forms of organizational and administrative support on student assessment utilization and impact. This remains an important gap in our understanding of how institutions can most effectively promote student assessment.

Conclusions

Using the literature on student assessment in higher education as a foundation, we have derived an analytic framework that may be useful for thinking about specific means through which institutions can support the use and enhance the impact of student assessment practices. At this point, some general comments regarding the nature of the literature on institutional support for student assessment and emergent implications for research are in order.

Nature of the Literature

In general, the literature on institutional support for student assessment is not grounded in systematic empirical research. It is ironic that to date we have not assessed the nature of, the influences on, or the impact of our institutions' assessment processes. Many of the documents we reviewed consisted of descriptions of student assessment practices at single institutions or prescriptive guidelines for how institutions can or should support student assessment efforts. While literature of this type is useful for suggesting alternative approaches to student assessment, its lack of methodological rigor limits the generalizability of any findings and does not permit the testing of relationships among variables.

Much of the empirical research on this topic is of an emerging nature. Most of the comparative case studies we reviewed were conducted as dissertation research and many of the single case studies lacked methodological rigor. Survey research has primarily examined institutional approaches to assessment, with few studies providing information on institutional support practices, and even fewer considering the impact of assessment approaches or institutional support practices on institutional uses and impacts of assessment.

Further, extant research on student assessment primarily offers descriptive data regarding separate institutional environments and domains within our framework. We know of shifts in patterns of state-level student assessment initiatives from decentralized to centralized decision making and of the emergence of new forms of assessment support from accreditation associations. However, whether these changes in the nature of external influences have modified institutions' student assessment approaches and support practices has typically not been directly examined. Interrelationships have been suggested, but we found few examples of efforts to conceptually or empirically integrate these environments. Moreover, there has been uneven empirical consideration of the various domains within the environments in our framework. For example, within the organizational and administrative environment, research has focused on the content of student assessment approaches and on leadership and governance support for student assessment, but for the most part has neglected the domains of external and internal assessment support strategy, academic management practices for student assessment, student assessment culture and climate, and the evaluation and revision of student assessment.

In fairness, these weaknesses in the literature may be due to the youthful character of many student assessment programs and the complexity of disentangling the unique impact of student assessment efforts from other concurrent influences within and outside postsecondary institutions. Nevertheless, the paucity of comprehensive descriptive evidence about student assessment approaches, organizational and administrative support patterns and uses and impacts, and the more limited empirical research examining the relationships among these domains constrains our understanding of how or whether the external environment, and institutional and administrative support patterns have differentially shaped institutional support for, approaches to, and uses and impacts of student assessment.

Implications for Future Research

Our examination of the literature was initially guided by an analytic framework consisting of three environments for student assessment (external, organizational and administrative support, and utilization and impact) and several domains within each environment. The usefulness of these environments and their related domains in considering influences on institutions' student assessment efforts has been supported, in principle, by available publications and studies on student assessment. Further, this review has helped to identify specific dimensions within each domain that may be particularly salient to our understanding of institutional support for student assessment. On the basis of this analytic framework and literature review, we advocate two broad avenues of future research on this topic: large-scale, quantitative research and intensive, qualitative research.

We identified many specific propositions associated with various dimensions within each domain of our framework. Initially, our understanding of whether and how these dimensions influence institutional support for student assessment may be best informed by conducting survey research with a nationally representative sample of postsecondary institutions. The use of such a broad, quantitative approach would provide systematic, descriptive information regarding the nature of external influences, student assessment approaches, organizational and administrative support practices, and institutional impacts of student assessment efforts. Institutional survey data could be supplemented with other databases regarding institutional context (IPEDS data), and state-level and regional accreditation association initiatives for student assessment (Cole et al., 1997). Multivariate analyses could be used to compare patterns of influences, practices and impacts across different institutional types, states and accreditation regions.

Large-scale survey research may do much to provide a broad picture of salient dimensions of institutional support for student assessment but is necessarily limited in the depth of information it can provide. Thus, we also see a need for intensive, qualitative research. A comparative case study methodology allows the collection of rich information, including objective documentation and self-reports from a variety of internal and external constituents. Based on the foregoing literature review, comparative case studies should include the examination of specific dimensions of external influences on student assessment, organizational and administrative policies and practices supporting student assessment and the uses and impacts of student assessment. These studies should include examination of real activities and patterns (objective climate), institutional members' perceptions of institutional support for student assessment

(perceived climate), and members' motivation and commitment (motivational climate) regarding student assessment. Ideally, varied comparative case study designs would be used sampling different types of institutions or those with differing approaches, support patterns, or records of student improvement. This approach would permit the comparison of salient dimensions of institutional support for student assessment across different institutional contexts situated in a variety of external environments.

The practice of student assessment is not intended as an end to itself, but as a means to improving student performance. Similarly, our interest in understanding how institutions support student assessment efforts is only useful to the extent that it provides credible and practical information for institutional administrators. Ultimately, the aim of any research agenda should be to produce practical guidelines, appropriately grounded on empirical evidence that will be of use to academic decision making in a variety of postsecondary institutions.

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